

of Good Hope. Another striking appearance was, that the edge of the inner penumbra was all like a saw, as if many streamlets of fluid matter were running towards the centre of the nucleus through several obstacles, or over a very rough bottom. The changes of this spot were very great, and I made several measures and drawings, but want of space prevents me telling you more. These appearances, however, seem to me very characteristic, and may throw great light on the physical constitution of the sun."

"The faculæ are, I think, fully proved to be prominences, by the fact that they are a good deal larger near the edge than at the centre of the disc. This I have observed several times during my experiments on solar heat. Some of these faculæ remained constantly visible during half a revolution of the sun, so that their identity was assured. I mention this merely as a confirmation of Mr. Dawes' discovery. I think the faculæ are brighter, only because their tops exceed the lower part of the solar atmosphere, which may absorb a good deal of light, since it absorbs at least nine-tenths of the total heat of the sun."

Accompanying the letter from which the foregoing passages have been extracted were a series of observations of *Massalia*, extending from November 18, 1852, to January 6, 1853, which were made by Signor Secchi at Rome, with the Cauchoix equatorial. There were also two observations of Westphal's Comet, one made on the 5th, and the other on the 30th of December. The latter observation is interesting, as being considerably later than any hitherto published. The observations both of the planet and comet will, doubtless, appear in the *Astronomische Nachrichten*. In the meantime it may be useful to insert those relating to the comet. The following are the apparent positions:—

1852.	Rome M.T.			App. R.A.		App. Decl.	
	h	m	s	m	s	'	"
Dec. 5	7	41	58	m + 5	41.20	m + 13	36.3
5	7	55	5	m + 5	40.90	m + 13	37.8
30	7	39	32	n — 0	45.15	n — 10	55.2
30	7	45	57	n — 0	45.30	n — 10	52.8

The approximate places of the stars of comparison are—

	R.A.			Decl.	
	h	m	s	'	"
m	13	52	(20)	+ 66	4
n	13	11	(50)	+ 69	10

Letter from Mr. Lassell to Mr. De La Rue.

"I observe that your attention has continued to be drawn to the figure of *Saturn*, and that you have made a number of measures of his diameters; and also that Mr. Dawes has made some, though not under favourable circumstances. My drawings of *Saturn* did not profess to give the ellipticity in conformity with any measures

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whatever, and I gave that form to the ball which satisfied my eye best on a comparison with the telescopic image. I have during my sojourn here made several sets of measures of the equatoreal and polar diameter, and the result is that $e = 0.078764$ or $\frac{1}{12.697}$ this compression (*apparent* compression — no correction being applied for present inclination of the axis) does not differ greatly from your own measures given in p. 21 of the *Notice*. Curiosity has led me to refer to my copy of the drawing sent last to the Society, and I find the compression is there graphically given *less* than the measurements show, viz. 0.05485 , or $\frac{1}{18.23}$ so that the drawing does not differ *so much* from the circle as either your own or my measures warrant.

“I presume that the ‘something’ which you thought you had discovered, but did not reveal in your note of the 20th November, is some inclination of the obscure ring to the plane of the others, evinced by an apparent encroachment of the dark ring on the bright one, and a want of symmetry in its elliptic projection. I can only remark upon this, that I have not observed such appearances; and whether I might have been able in any degree to confirm your observation, if my attention had been especially directed to that point, I cannot now say. The weather has been lately unfavourable, even here, and *Saturn* is getting fast away now into the twilight.

“*Valetta, Feb. 7, 1853.*”

Letter from the Rev. W. R. Dawes to Mr. De La Rue.

“Since I met you at the January meeting of the Astronomical Society, I have been looking over some observations of the diameters of *Saturn*, which I obtained in 1848. They are but few — only two sets of each diameter; but the measures were taken under remarkably favourable circumstances. In my journal, I have noted that the planet was *exquisitely* defined, and all the measures excellent. As they were so few, and it was probable that the larger telescopes in some of the public and private observatories would be specially directed to the subject, I made no use of them, and was not aware of the ellipticity they indicated. On reducing them and calculating the result, I find from one of the sets, $e = \frac{1}{12.163}$, and from the other, $e = \frac{1}{11.813}$; the mean being $e = \frac{1}{11.988}$, which is somewhat larger than I should have expected from my impression of the appearance of the planet at that time. Yet on drawing an ellipse of these proportions, it does not appear preposterous, as you will perceive in the diagram inclosed, along with one representing the ellipticity according to Mr. Main’s observations. With respect to these, the Astronomer Royal has informed me that, at the time, such an ellipse was deemed *satis-*